

# Bloodborne Pathogens/Infection Control Tuberculosis Awareness



**CDM 4<sup>th</sup> Year**  
**May 30<sup>th</sup> 2017**



Biological Safety Officer  
Environmental Health and Safety

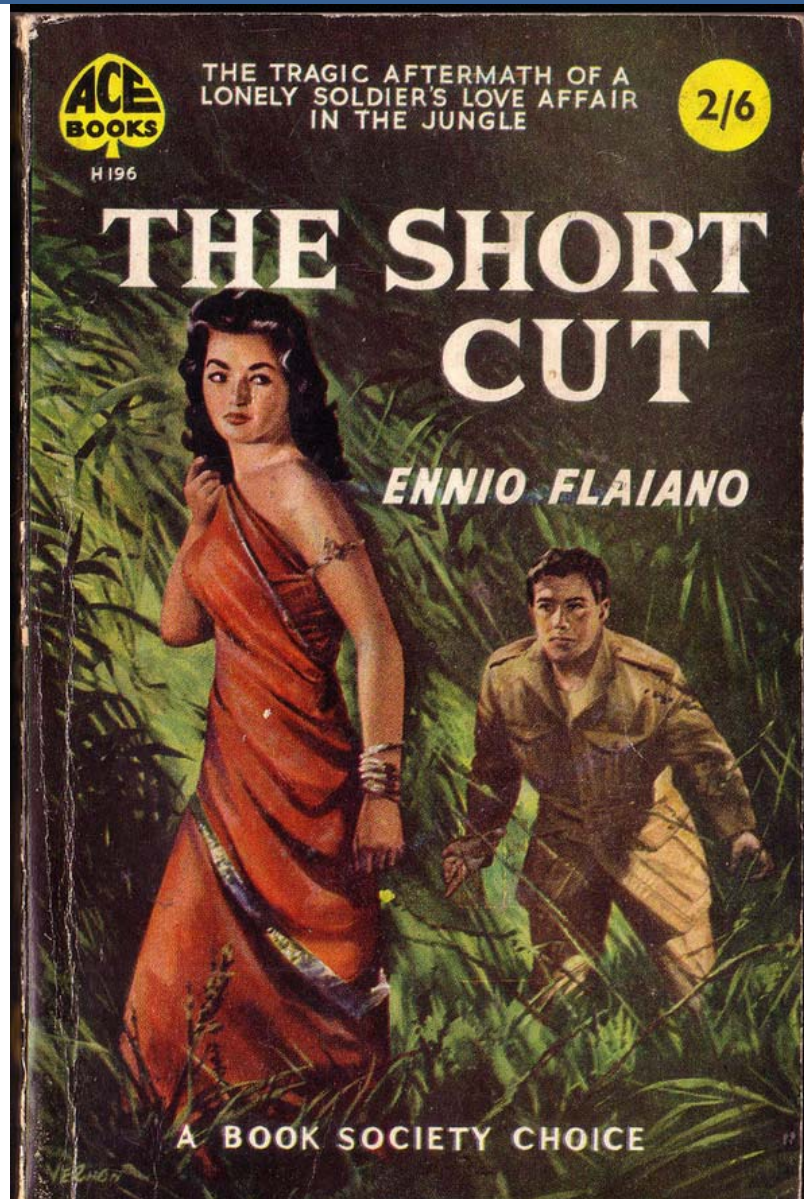
# Training Outline

- Infection Control
- Bloodborne Pathogens
- Sharps Safety
- Environmental Surfaces
- Spills
- Personal Protective Equipment
- Hand Hygiene
- TB Transmission in Dentistry

# Why Is Infection Control Important in Dentistry?

- Contact with blood, oral and respiratory secretions, and contaminated equipment can occur
- Both patients and dental health care personnel (DHCP) can be exposed to pathogens
- Proper procedures can prevent transmission of infections among patients and DHCP

# Infection Control





HOME > HEALTH

## 60 Oklahoma Dental Patients Test Positive for Hepatitis, HIV



Dentist's Patients Tested for HIV, Hepatitis



By KATIE MOISSE (@katiemoisse)  
 April 18, 2013

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At least 60 people have tested positive for hepatitis or HIV after visiting an Oklahoma dentist slammed by the state dental board for poor sterilization practices, the Tulsa Health Department said today.

Dr. W. Scott Harrington allegedly re-used needles, a practice that can contaminate ostensibly sterile drugs with dangerous diseases. He is also accused of using rusty equipment that was not properly cleaned.

More than 7,000 patients from Harrington's Tulsa and Owasso clinics were sent letters in late March outlining the risk of infection and steps to

- First documented report of patient-to-patient transmission of hepatitis C virus associated with a dental setting in the United States
- Improper sterilization techniques
- Using single vials of medications on multiple patients
- No written infection control protocol

# Tomah VA testing veterans for infection after dentist failed to sterilize tools

CHRIS HUBBUCH chubbuch@lacrossetribune.com Nov 30, 2016 5

- Replacement dental technician noted improper sterilization techniques
- Hundreds of patients require bloodborne pathogen testing
- Dentist removed from clinical care



Tomah Journal file photo

The VA Medical Center in Tomah



TOMAH — The Veterans Administration is asking nearly 600 patients of its Tomah hospital to get screenings for hepatitis and HIV after discovering that a dentist wasn't using sterilized equipment.

The dentist, who was hired in October 2015, was reusing drill bits without properly sterilizing them. The VA requires its dentists to dispose of bits after one use.

The VA announced the lapse Tuesday, the same day it began contacting 592 patients seen by the dentist over the past year.



LOCAL

**Timeline: Reports about problems at Tomah VA began in 2015**

Aug 30, 2016 0

A timeline of the over-medication scandal and subsequent investigation at the Tomah VA Medical Center

# Commission on Dental Accreditation (CODA)

- Accreditation visit in Sept. 2016
- Formally “No recommendations” made by CODA accreditors – Congratulations!
- However..... Areas of improvement were noted including **infection control**



# Infection Control: An Escalation Policy For Non-Compliances

- Infection control compliance and outcome assessments rolled out in January 2017
- Potential disciplinary action, loss of clinic privileges
  - Hand hygiene
  - Use of PPE
  - Sharps Safety
  - Safe Injection Practices
  - Sterile instruments and devices
  - Clean and disinfected environmental surfaces
- Courageous conversations welcomed

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College of Dental Medicine

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**Clinical**

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**Clinical Information Systems - Axiom Portal**

**I. Clinical Policies and Procedures**  
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Section b. [Environmental Health and Safety](#)  
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**II. Clinic Information Manuals**  
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b. [Infection Control and Policy Statement on Students with Blood Borne Pathogens](#)  
c. [Exposure Control Plan and Blood Borne Pathogen Standard](#)  
d. [Safety Data Sheets - MSDS](#)  
e. [2016 CCC By-Laws of the Professional Staff](#)  
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**III. Conflict of Interest**  
[CUMC COI Policy 2015](#)  
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[CDM Retreat June 2015 - Video Recording](#)

**CDM Retreat September 2015 - Video Recordings**  
- [Introduction & Background, Dr. Stohler & Dr. Seldin](#)  
- [Global Engagement, Dr. Monaco & Dr. Lalla](#)  
- [Excellence in Science, Dr. Lipton & Dr. Papanous](#)  
- [Population Oral Health, Mr. Kess & Dr. Edelstein](#)  
- [Overview of Preparations for Accreditation](#)  
- [Planning for the Future-VC5 & Beyond, Mr. Berman & Mr. Bader](#)  
- [Sectional Realignment, Dr. Stohler & Section Chairs](#)

**Grants Management Office**  
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**New Hire On Boarding Training**  
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**Faculty Development**  
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[Dental School GRF Activity](#)



# Did You Just Double Dip That Chip?



 COLUMBIA UNIVERSITY  
College of Dental Medicine

## Warning Citation for Non-Compliance with CDM Policies and Procedures

Date: \_\_\_\_\_

To: \_\_\_\_\_

From: \_\_\_\_\_

You have been provided this warning citation because you violated a CUHC Policies and/or Procedures at CDM. Professionalism, patient safety and regulatory compliance are important components of your professional responsibilities at CDM. Repeated failure to comply with these policies and procedures will result in suspension of clinic privileges

Description of violation:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Signature of Violator

\_\_\_\_\_  
Signature of Reporter



# Infection Control: Standard Precautions

Apply to all patients regardless of actual or perceived risk factors; treat all blood or OPIM as if infectious

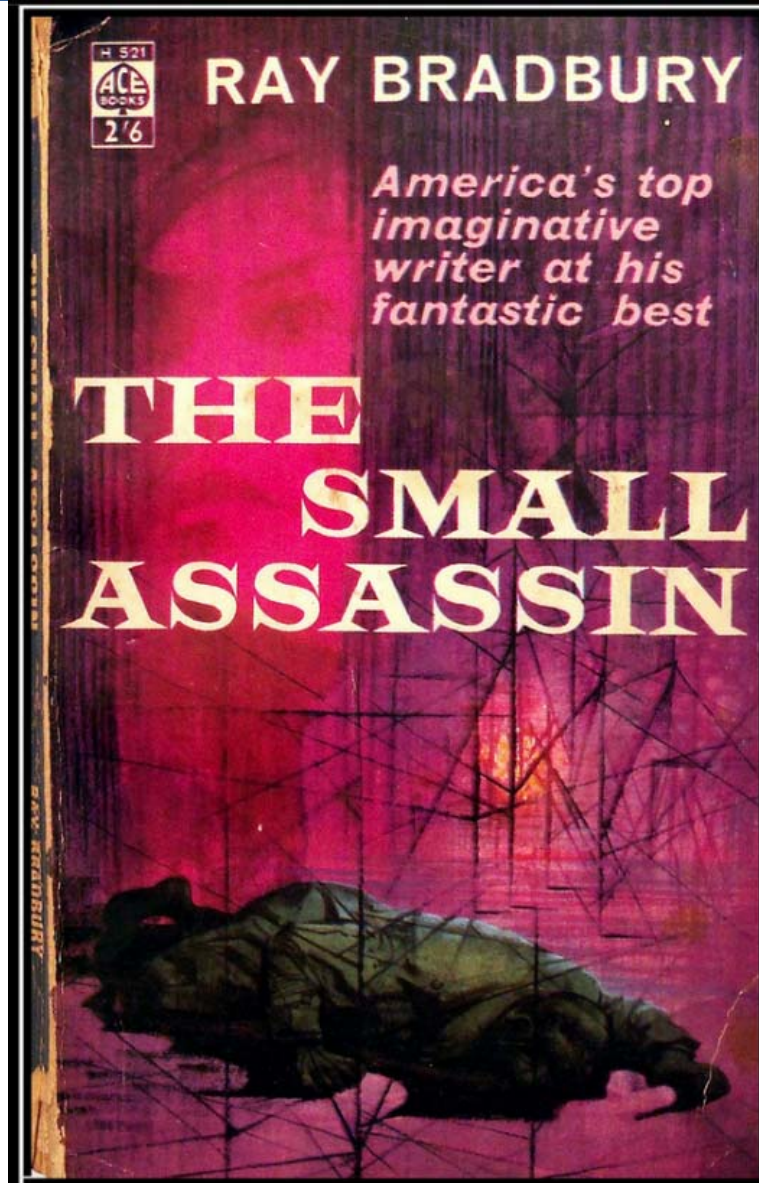
- Otherwise potentially Infectious Material (OPIM)
- Body fluids, secretions incl. saliva , and excretions (except sweat), whether or not they contain blood
- Non-intact (broken) skin
- Mucous membranes

# Elements of Standard Precautions



- Hand washing
- Use of gloves, masks, eye protection, and gowns
- Disinfection of patient care equipment
- Disinfection of environmental surfaces. Alternatively, cover what you can
- Injury prevention

# Bloodborne Pathogens



# Bloodborne Pathogens

## HIV

- Lifetime infection
- No vaccine, no cure

## HCV

- Symptoms and transmission risk factors similar to HBV
- Untreated-chronic infection and #1 reason for liver transplant
- No vaccine

## HBV

- Jaundice
- Risk factors: Sharps and needlesticks
- Chronic infection develops ~5% of the time, increasing risk for cirrhosis, liver cancer
- Environmental persistence on surfaces
- Vaccine available

# Bloodborne Pathogens: HBV Vaccine

- Vaccine Efficacy >90%
- Now part of childhood schedule
- University policy to offer to students with potential occupational exposure



# Bloodborne Pathogens: Occupational Exposure

- Refers to: 'stick' from any contaminated item; mucous membrane, non-intact skin exposure
- Clean with Betadine and antimicrobial soap
- Rinse eyes/mucous membranes 10 minutes
- Inform supervisory person
- All patients, students or faculty/staff injured in the clinical facility should file an "Accident Report - Qualtrics"
- Online submission
- Student Health - HIV, HBV, HCV response scenarios
- File University Accident Report

# Bloodborne Pathogens: Post Exposure Evaluation

- Baseline HIV, HBV, HCV testing (titers/viral load)
- HIV Post exposure prophylaxis; anti-retroviral treatment may be indicated and is effective if given immediately (2 hour window) – **REPORT IMMEDIATELY**
- Source patient name and MRN# is helpful
- HBV Vaccination/Ig may be indicated
- HCV No post exposure prophylaxis; anti-viral treatment may be indicated for established infections
- Follow up testing



# Bloodborne Pathogens: Accident Reporting

Print Form



COLUMBIA UNIVERSITY HUMAN RESOURCES

## Departmental Accident Report Form for Workers' Compensation Benefits

### Employee Information

To be completed by the employee

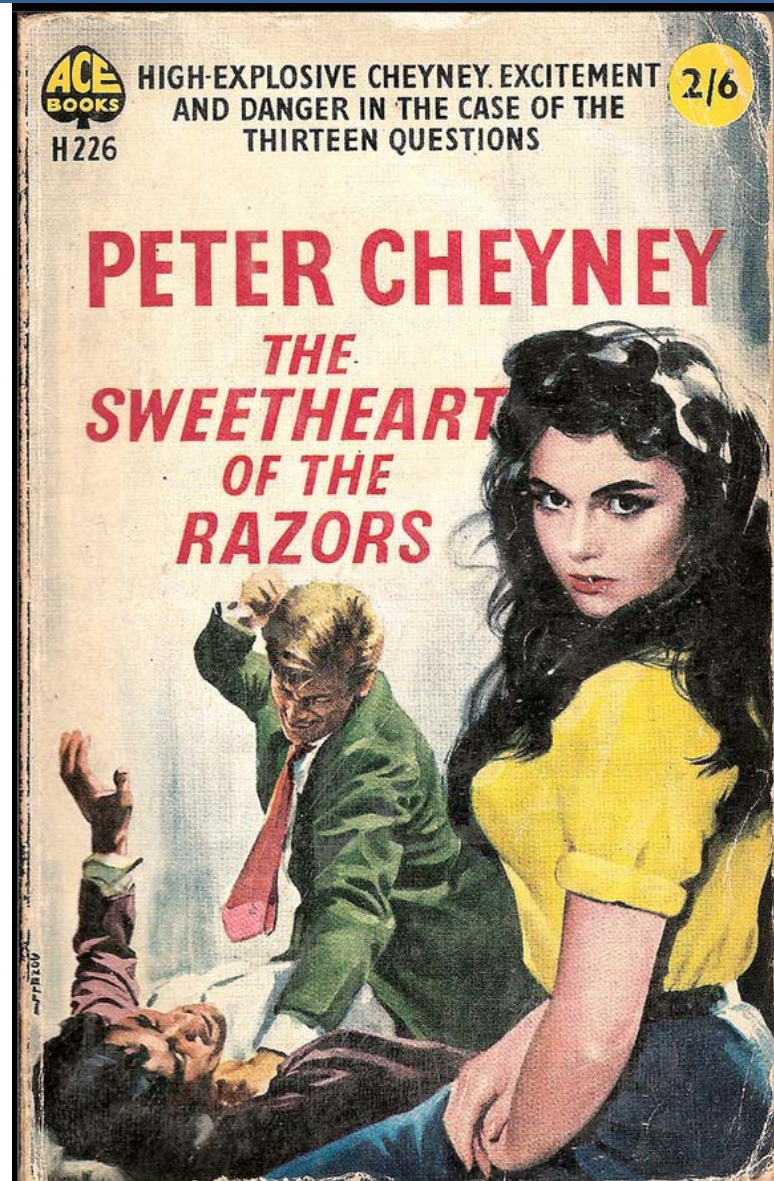
Last Name: \_\_\_\_\_ First Name: \_\_\_\_\_  
Employee ID: \_\_\_\_\_ Date of Birth: \_\_\_\_/\_\_\_\_/\_\_\_\_ Home Phone: (\_\_\_\_) \_\_\_\_-\_\_\_\_  
Address: \_\_\_\_\_ Apt. #: \_\_\_\_\_  
City, State, ZIP: \_\_\_\_\_  
Employment Date: \_\_\_\_/\_\_\_\_/\_\_\_\_ CU Department: \_\_\_\_\_ Occupation: \_\_\_\_\_  
Work Phone: (\_\_\_\_) \_\_\_\_-\_\_\_\_  Part Time  Full Time  
Wages per week: \$ \_\_\_\_\_ Days per week worked: \_\_\_\_\_ Regular Days Off: \_\_\_\_\_

### Accident Information

To be completed by the employee—all questions required

Date of injury/illness: \_\_\_\_/\_\_\_\_/\_\_\_\_ Time of injury/illness: \_\_\_\_\_ Time you started work: \_\_\_\_\_  
Location (building, room) where injury/illness occurred: \_\_\_\_\_  
What were you doing when injury/illness occurred?: \_\_\_\_\_  
How did the injury/illness occur?: \_\_\_\_\_  
Was the injury caused by a sharp object (needle, scalpel, razor, etc.)? If so, you must specify the device type and brand: \_\_\_\_\_  
Describe the object or substance (chemical, blood, etc.) which directly injured you: \_\_\_\_\_  
Describe the injury/illness—indicate type of injury, specify left or right, and so on, for example, "upper right leg": \_\_\_\_\_

# Sharps Safety



# Sharps Safety



# Regulated Medical Waste Management

- Patient
- Material
- Procedure



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leakage

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nd local

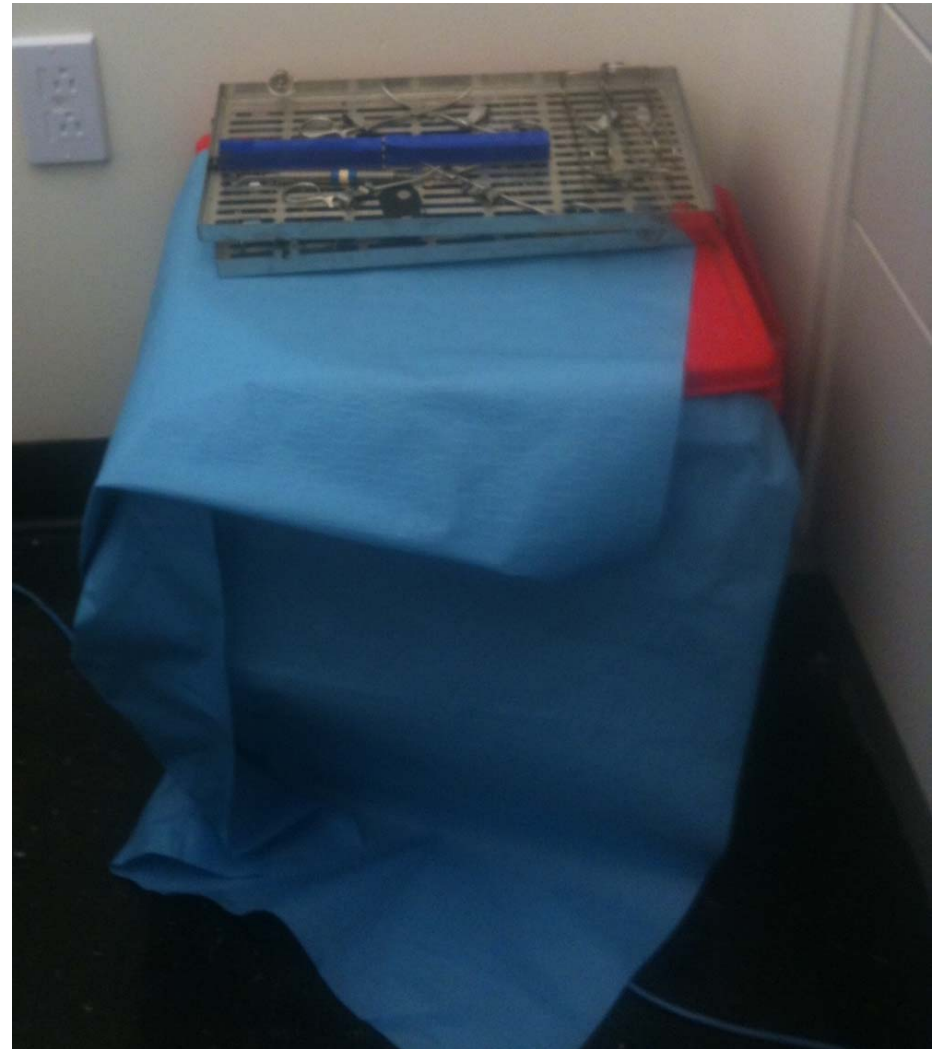
waste

## Regulated Medical Waste Disposal Guide

SHARPS	NON-SHARPS	TRASH	AMALGAM WASTE
<p>Place all sharp objects such as endodontic files, irrigation syringes, needles, orthodontic wires, empty anesthetic capsules, sutures, scalpel blades, broken glass, etchant, sealants, composite syringes, dental burs, or any item that has the potential for causing percutaneous exposure in sharps container. <i>*No Soft Debris, *No Chemical Waste</i></p>	<p>Dispose of all other potentially biohazardous non-sharp waste (e.g. any visibly soiled or blood stained disposables such as gauze or gloves) in red bags. <i>*No Sharps, *No Chemical Waste</i></p>	<p>Refuse free of visible contamination (i.e. non-blood stained disposables), free of patient information, and presenting no other hazards should be disposed of in regular, clear garbage bags. <i>*Not in Red Bags or Sharps Containers</i></p>	<p>Dispose of all dental amalgam capsules into the exempt scrap metal container. <i>*Not in Red Bags, Sharps Containers, or Garbage Bags</i></p>

# Red Bag Bins Are Not a Place to Store....

- Coats
- Bags
- Dental trays
- Anything!



# What Goes in Here?



No food or drink permitted in the clinic



# Categories of Environmental Surfaces

- Clinical contact surfaces
  - High potential for direct contamination from spray or spatter or by contact with DHCP's gloved hand
- Housekeeping surfaces
  - Do not come into contact with patients or devices
  - Limited risk of disease transmission

# Environmental Surfaces: Clinical Contact Surfaces





# Environmental Surfaces: Housekeeping Surfaces



# Bedbugs

- If bed bugs or bites are apparent, talk discreetly to your patient about them, as you would with any other medical issue.
- PPE and terminal cleaning procedure should be adequate to control transmission of bed bugs
- When to ask for help? If you suspect bed bugs may be present your clinic or office should call the facilities help desk. Facilities will send a contracted exterminator over to lay glue traps. If bed bugs are evident, chemical extermination will be performed.



# Spills

- Small blood spills on clinical contact surfaces can be cleaned up by CODM staff/students
- Cleaning materials and PPE are available in the clinics
  - Gloves, paper towels, bleach
- When to ask for help?
  - Spills on housekeeping surfaces, large spills, aspiration system failure



# Spills



Columbia University  
Health Care

Columbia University  
College of Dental  
Medicine

Approval: Clinical Care  
Committee

Date:  
Reviewed: March 2013  
Reviewed: March 2014

Section on Environmental  
Health and Safety

Page 34

¶  
• **TITLE:** → Biological Spills ¶

¶  
**POLICY:** → This policy identifies responsibility and procedures for cleaning biological spills such as blood and saliva. ¶

¶  
**PURPOSE:** → To ensure that biological spills are cleaned and disinfected promptly as an infection control measure. This policy is in agreement with the Columbia University Policy – Biological Spills; Response and Clean-up (see REFERENCES). ¶

¶  
**RESPONSIBILITIES:** ¶

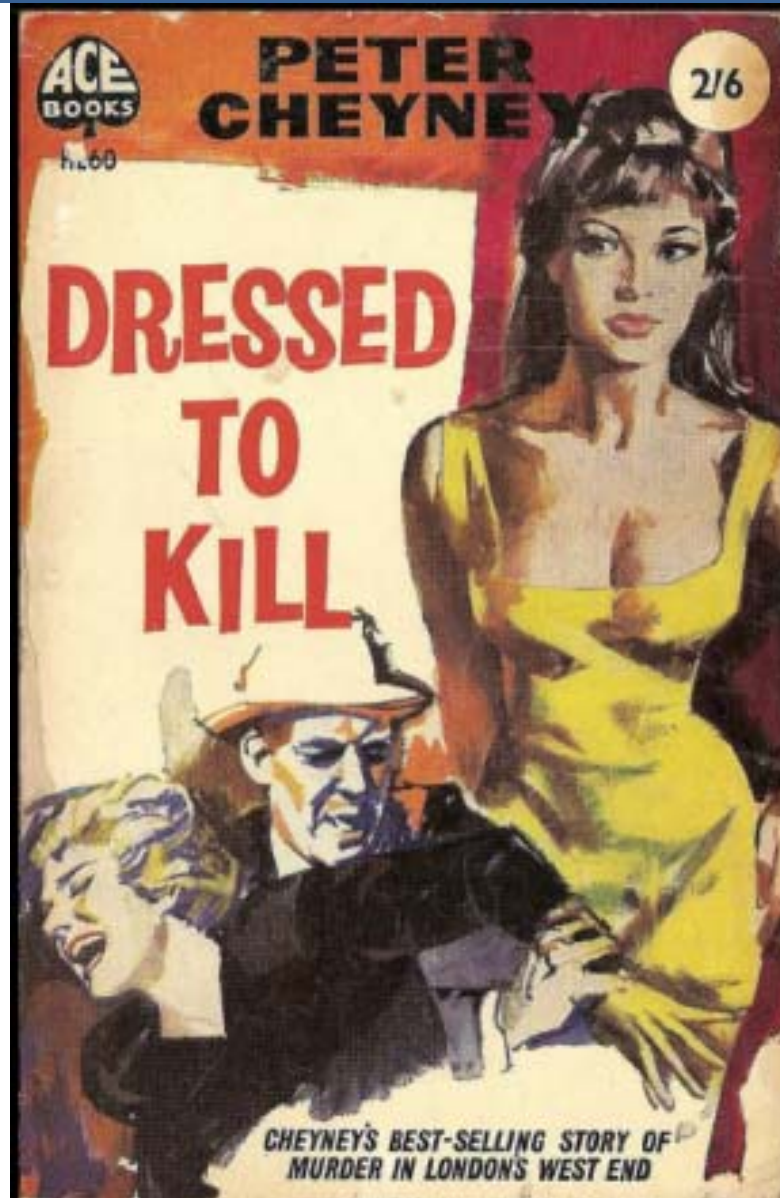
1. → Clinicians are generally responsible for cleaning up biological spills that contact their equipment (e.g. dental chairs) and work surfaces. Facilities are generally responsible for cleaning up biological spills that are on the floor. Clinicians should call Facilities for service (212-305-4357). Facilities will then reach out to EH&S if a consultation on clean up procedures is warranted. Departments are encouraged to contact Facilities to establish specific agreements regarding the scope of spill clean-up services. ¶

¶  
2. → Facilities are generally responsible for cleaning up biological spills that are in common areas, for example, on the hallway floor or in a bathroom. EH&S is available to consult on clean up procedures and will assume responsibility for the spill if it is large. ¶

¶  
**PROCEDURE:** ¶

¶  
1. → Materials for clean-up should be assembled in one place, and personnel should

# Personal Protective Equipment (PPE)



# Personal Protective Equipment (PPE)

- Disposable gowns should also be changed daily or when they become visibly soiled; They can be disposed of in normal (non-red bag) waste
- Gowns are either front or rear-opening; NOT reversible
- Surgical masks and protective eyewear (providers and patients) must be worn at all times when splatter, splash or aerosol producing procedures are being performed, or observations of procedures are being made



Side shields required





# Personal Protective Equipment (PPE): Gloves

- Minimize the **two-way transmission** of microorganisms between patients and providers
- Reduce contamination of the hands of health care personnel by microbial flora that can be transmitted from one patient to another
- **Are not a substitute for hand washing or sanitizing**



# Special Hand Hygiene Considerations

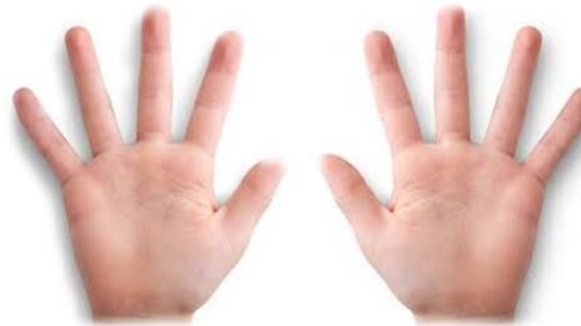
- When removing gloves, no glove is 100% effective
- Change ASAP after visible contamination
- 'Purell' or soap and water?
- Technique is important



or



?



WASHED HANDS

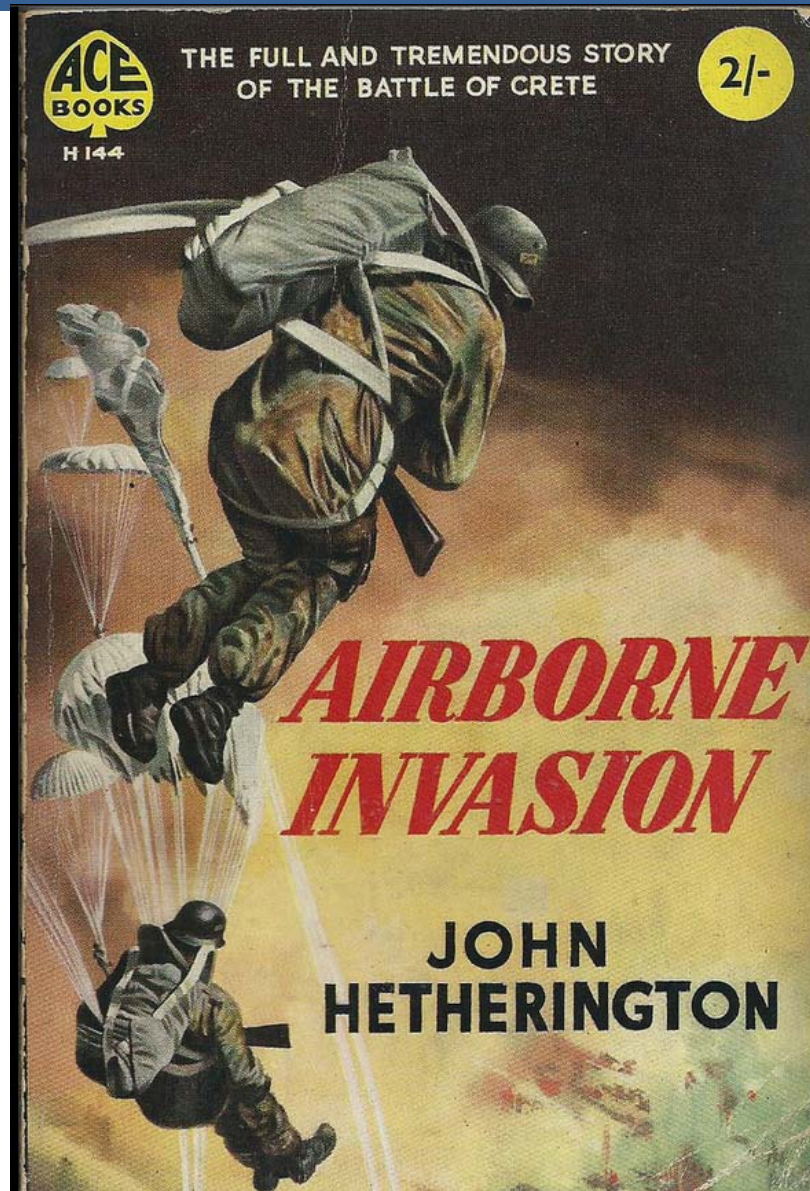


DIRTY HANDS



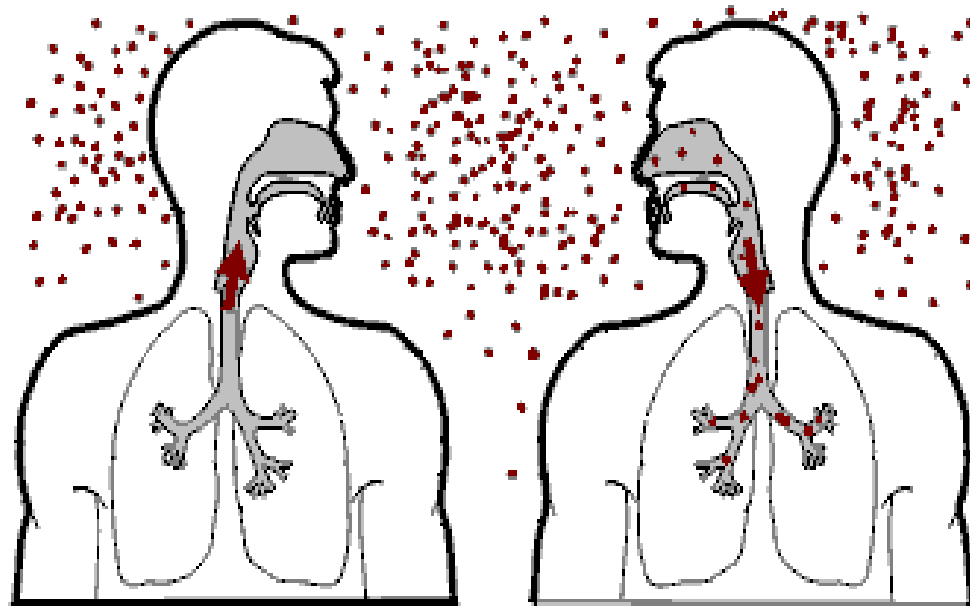
SANITIZED HANDS

# TB Transmission in Dentistry



# Transmission of *Mycobacterium Tuberculosis*

- Spread by droplet nuclei
- Immune system usually prevents spread
- Latent infection: Bacteria can remain alive in the lungs for many years (not transmissible)



# TB Transmission in Dentistry: Risk

- Risk in dental settings is low
- Only one documented case of transmission
- Tuberculin skin test conversions among DHCP are rare

# TB Transmission in Dentistry: Prevention

- Baseline medical surveillance of DHCP (PPD/quantiferon)
- Assess patients for history of TB
- Defer elective dental treatment
- If patient must be treated:
  - DHCP should wear a respirator
  - Isolation; separate patient from others/mask
  - Refer to facility with proper TB infection control precautions



# Questions?

